

ON A REMARKABLE NEW FREE-TAILED BAT FROM
SOUTHERN BOMBAY.

BY

OLDFIELD THOMAS.

WITH A PLATE.

(Published by permission of the Trustees of the British Museum.)

Among the numerous mammals recently obtained by the collectors employed by the Bombay Natural History Society, there occur three specimens of a most remarkable and conspicuous new Free-tailed bat, which Mr. Wroughton has been good enough to refer to me for description.

The specimens were obtained by Mr. S. H. Prater, assistant in the Society's Museum, in a large cave near Talewadi, about 25 miles north of Castle Rock, on the Ghats between Belgaum and Goa. The cave contained large numbers of bats, most of which proved to be Megaderms, but among them were three specimens of the species here described.

I propose to call it:—

NYCTINOMUS WROUGHTONI, sp. n.

A large dark-coloured Nyctinomus, with large ears and a conspicuous patch of whitish across the shoulders.

Size very large, the forearm slightly exceeding in length that of the largest previously known species, *N. martiensseni*, Matschie. Fur fine and velvety, hairs of back about 3·5 mm. in length; mostly limited to the trunk, but there is a patch of fur on the anterior external base of the ears, a line of fur along the upper and under sides of the forearm, a patch on the membrane between the base of the fifth metacarpal and the forearm, and the base of the interfemoral is hairy; beneath, the fur of the body extends outwards as far as a line joining the elbow and knee. General colour above dark rich chocolate brown, with a strongly contrasted greyish drabby-white mantle across the shoulders, the back behind it also mixed with whitish. Under surface duller brown, the lower side of neck greyish; fur on under side of wing membrane lighter than that of the body. Top of head dark glossy brown, but minute patches of white present on the dorsal side of the inner bases of the ears. Ears very large, oval, rounded, connected with each other at their inner base, inner margin convex, dotted with a dozen or more small horny points, tip broadly rounded, outer margin flattened above, evenly convex below; no antitragus present, but the extra lobe on the inner side of the conch, opposite to the tragus, unusually well developed. Tragus practically

obsolete, minute, triangular, its height not more than half the breadth of its base.



A small, shallow and inconspicuous gular sac present in the male.

Skull long, smooth and rounded, in general shape not unlike that of *N. teniotis*; quite different from that of "Chærephon"; ridges much reduced, upper profile sinuate, a marked concavity passing across the fronto-parietal suture; antero-external corners of braincase unusually prominent; upper side of zygomata with an immensely developed postorbital plate, far exceeding that of any other member of the family. Premaxillary region essentially of the "Chærephon" type, the narrow notch between the premaxillaries not reaching to the level of the hinder edge of the incisor roots, and not communicating with the very small anterior palatine foramina. Posterior edge of palate level with m^3 . Distinct, deep, and sharply defined basisphenoid pits present, with overhanging edges, and high mesial septum. Tympanics very large, their antero-internal halves projected forwards nearly to the pterygoids.

Teeth as in typical *Nyctinomus*. Small upper premolar in the centre of the considerable space between the canine and large premolar. M^3 normal, broad, with four well-marked cusps and their connecting commissures. Lower incisors 4 in number. Anterior lower premolar about half the height and nearly equalling the area in cross section of the posterior premolar, from which it is separated by a narrow space.

Dimensions of the type, the italicized measurements taken in the flesh:—

Forearm 68mm.

Head and body 99mm.; tail 46; ear 33; third finger, metacarpus 66, first phalanx 25, second phalanx 47; fifth finger 62; lower leg and hindfoot (c. u.) 32mm.

Skull, greatest length 25; basal length 21·7; zygomatic breadth 13·7; intertemporal breadth 4·2; breadth of braincase 11·5; palatal length 9·2; front of canine to back of m^3 9·2; breadth between outer corners of m^3 9·3.

HABITAT.—Barapede Cave, near Talewadi, S. India.



Type
DATE 15. Oct 12 SEX ♀ 12. 11. 24. 1.
No. 16
Loc. Salewadi Castle Rock, Thos.
Coll. SH Prater

Type.—Adult female, B.M., Nos. 12, 11, 24, 1. Collected 15th October 1912 by S. H. Prater. Presented to the National Museum by the Bombay Natural History Society.

This handsome bat forms one of the most showy and striking discoveries of recent years, so far as Indian Mammalogy is concerned, and it is with great pleasure that I attach to it the name of my friend Mr. R. C. Wroughton, the prime-mover and manager—at least at the English end—of the Bombay Society's Mammal Survey, and the author of the reports that have appeared on the results. Mr. Wroughton's keen co-operation in all the Mammal work that has been done in the British Museum has been of the greatest service to us, and his coming temporary absence will be greatly felt by those who have been wont to rely with confidence on his knowledge and labours for anything connected with either Indian or African Mammalogy.

Nyctinomus wroughtoni as a species is readily distinguishable by its great size, its strikingly contrasted coloration, its large ears with aborted antitragus and by the various cranial and dental peculiarities above enumerated.

In size, as gauged by the forearm, it is the largest of the genus *Nyctinomus*, and of the Family *Molossidae* is only exceeded by *Cheiromeles torquatus* and *Promops perotis* and *trumbulli*. The nearest approach to it in *Nyctinomus* is made by *N. martiensseni*, Matschie, of German East Africa, which has a forearm of 66mm., somewhat similar coloration and similarly aborted antitragus. Indeed when the cranial characters of this bat are known we may find it is really the nearest ally of *N. wroughtoni*, just as the East African *Taphozous hildegardeæ* is related to the Indian *T. melanopogon*.

But the most important feature about the discovery of *N. wroughtoni* is the upset it causes in the current grouping of the bats which were formerly included in *Nyctinomus*, but which have of recent years, notably by Miller, been divided into two genera, *Nyctinomus* and "*Cherephon*," according to the characters of the premaxillæ, those with these bones separated being put into *Nyctinomus* and those with them undivided into "*Cherephon*."

It may first be noted that if this grouping were followed the name of *Cherephon* (1874) should be replaced by that of *Mops*, (Lesson 1842), the type of the latter, *Dysopes mops*, F. Cuv., being a member of "*Cherephon*," with united premaxillæ and all the other characters of the most typical members of that group.

But secondly the peculiarities of *N. wroughtoni* convince me that this character of the premaxillæ is not here one of generic value, for while the new species has the closed premaxillæ of *Mops*, all its other characters are those of typical *Nyctinomus*, and it is evident that either *Nyctinomus* and *Mops* must be united, or some

other character found for their distinction. I may note also that all sorts of intergradations are found in the premaxillæ and that it is often almost impossible to decide whether a given specimen should be referred to one genus or the other by this character of the premaxillæ.

A typical *Nyctinomus* has a long, smooth, flattened skull, with a sinuate upper profile, aborted sagittal and reduced lambdoid crests, open premaxillæ, well spaced premolar region, palate ending level with the last molar, and with normal, unreduced m^3 provided with four cusps and their connecting commissures. Looked at from its inner side such a tooth shows (above the internal lobe) two well developed main cusps side by side, the posterior often (as in *N. wroughtoni*) but little smaller than the anterior.

Of the Indian species *N. tragatus* corresponds with this description in all respects, while, with the one exception of the premaxillæ, *N. wroughtoni* and *N. plicatus* are equally referable to the genus *Nyctinomus*.

On the other hand typical species of the *Mops* group have the premaxillæ closely united, the skull shortened, convex above, with well developed sagittal and lambdoid crests, shortened premolar region, the large p^4 commonly almost or quite touching the canine; and, most important of all, a reduced m^3 , which is compressed antero-posteriorly and has nearly or quite lost its posterior cusp and commissures.

Of *Mops* as thus defined the following are typical in all respects: *mops*, *miarensis*, *demonstrator* and *midas*, while various others may be assigned to the genus on what I consider its most important character, the reduced m^3 , even when they diverge in other respects.

P. S.—February 1913.—Since writing the above I have been able to make the more complete examination of the African members of this group demanded for its proper arrangement into genera. As I expected, the character of the structure of the last upper molar (m^3) proves to be far more important than that of the junction or separation of the premaxillæ, and may be used for the primary division of the group. The premaxillæ and other characters are then available for a natural division into genera, of which I should now recognize four, one, formed for *Nyctinomus wroughtoni*, being new. Their characters may be briefly put as follows:—

A. M^3 complete, its ridges forming a Z of which the posterior limb or commissure extends inwards as far as the anterior angle.

a. Premaxillæ separated *Nyctinomus*, Geoff.

b. Premaxillæ united.

a.² Basi-occipital pits well defined, with overhanging edges.

A prominent vertical projec-

tion on zygoma. *Otomops*, g. n.

- b.² Basi-occipital pits scarcely defined. No projection on zygoma *Cherephon*, Dobs.
- B. M³ reduced, its posterior commissure obsolete, or at most extending less than half as far inwards as the anterior angle.
- Premaxillæ open or closed *Mops*, Less.

The chief species which fall into these several genera are as follows:—

1. *Nyctinomus*—
 - Indian species *tragatus*.
 - African *teniotis*, *ægyptiacus* (type), *africanus*, *fulminans lobatus*, *bocagei*, *brunneus*, *anchiatæ*, *cisturus*.
 - All American and Australian species.
2. *Otomops*—
 - Indian *wroughtoni*. (type).
 - African *martiensseni*.
3. *Cherephon*—
 - Indian *plicatus*, *johorensis*. (type).
 - African *bivittatus*, and all *pumilus* group.
4. *Mops*—
 - Indian *mops* (type).
 - African *midas*, *miarensis*, *demonstrator*, *angolensis*, *thersites*, *leonis*, *brachypterus*.

It will thus be seen that the striking new bat named after Mr. Wroughton proves to represent a new genus, to which I should also provisionally assign the African *martiensseni*. This new genus is readily distinguishable by the obsolescence of the tragus and antitragus, the peculiar shape of the skull, the projections on the zygomata, the elongated tympanics projecting forwards to touch the pterygoids and the deep and partly covered in basi-phenoid pits in addition to the combination of complete m³ with united premaxillæ which it shares with the otherwise very different *Cherephon*.

Its alliance, as indicated in the earlier part of the paper, is, no doubt, most close with true *Nyctinomus*, but its many peculiarities amply justify its erection as a special genus.
